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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,760	04/18/2000	Kirk B. Ashby	049581-P024US-10006096	3104

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EXAMINER

TRAN, PABLO N

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,760

Applicant(s)

ASHBY ET AL.

Examiner

Pablo N Tran

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-4, and 8-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Applicant's Admitted Prior Art* in view of *Manuel* (5,661,485) and further in view of *Tomasz* (6,400,416).

As per claims 1, 3-4, 15-16, and 30, *Applicant's Admitted Prior Art* disclosed a method of providing a frequency translation circuit comprising an input signal (fig. 1/item IN) interface accepting a video bandwidth signal at a first frequency, an output signal (fig. 1/item OUT) interface passing said video bandwidth signal at a desire frequency, a first mixer (fig. 1/no. 121) circuit having a first input and a first output, wherein a signal provided to said first input is provided to said first output at an increased frequency; and a second mixer (fig. 3/no. 214) circuit having a second input and a second output, wherein said second mixer is coupled to said first mixer, and wherein a signal provided to said second input is provided to said second output at a decreased frequency (*Applicant's Admitted Prior Art*, fig. 1, pg. 8/ln. 1-pg. 11/ln. 12).

Applicant's Admitted Prior Art does not specifically disclose that the first and second mixers are single-sideband/image reject mixers (see specification, abstract). However, *Manuel* disclosed such teaching of using a first and a second single-sideband/image reject mixers configuration (fig. 8/no. 66 & 74, fig. 3, fig. 4). Therefore, it would have been obvious to one of ordinary skill in the art to provide such mixers configuration, as disclosed in *Manuel*, to the mixers of *Applicant's Admitted Prior Art* to provide a lower inherent noise output and remove unwanted image signal.

Furthermore, the modified communication system of the *Applicant's Admitted Prior Art* do not disclosed that such mixers configuration are disposed on a common IC substrate. However, such mixers configuration disposed on a common IC substrate are well known in the art, as disclosed by *Tomasz* (fig. 2-5/no. 216). Therefore, it would have been obvious to one of ordinary skill in the art to provide such circuitry arrangement on a single IC substrate, as disclosed in *Tomasz*, to the modified communication system of *Applicant's Admitted Prior Art* to provide such compact integrate device that can easily be implement in a receivers.

As per claims 8-10, 23, 25, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* further disclosed a signal amplitude manipulator disposed on a common IC substrate (see *Applicant's Admitted Prior Art*, fig. 1/no. 114, see *Tomasz*, fig. 3/no. 252, 256).

As per claims 11-13, 24-25, and 31-32, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* further disclosed a filter (see *Applicant's*

Admitted Prior Art, fig. 1/no. 141, see *Manuel*, fig. 8/no. 68) coupled to said first single sideband mixer and is disposed on a common IC substrate.

As per claim 14, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* further disclosed a filter (see *Tomasz*, fig. 3/no. 210) is disposed external.

As per claims 17-19, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* further disclosed a phase shifter (see *Manuel*, fig. 3/no. 3068).

As per claims 20 and 33, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* disclosed an amplifier, coupled to said input, is disposed on a common IC substrate (see *Applicant's Admitted Prior Art*, fig. 1/no. 111, see *Manuel*, fig. 8/no. 112, see *Tomasz*, fig. 3/no. 224).

As per claims 21-22, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* disclosed an amplifier, coupled to between said first and second mixers, is disposed on a common IC substrate (see *Applicant's Admitted Prior Art*, fig. 1/no. 112 & 113, see *Tomasz*, fig. 3/no. 242).

As per claim 23, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* disclosed an amplifier coupled to the second output and is disposed on a common IC substrate (see *Applicant's Admitted Prior Art*, fig. 1/no. 114, see *Manuel*, fig. 8/no. 116 see *Tomasz*, fig. 3/no. 252 & 256).

As per claims 26-29, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* disclosed said first mixer comprises a fixed frequency

carrier and said second mixer comprises a variable frequency carrier (see *Applicant's Admitted Prior Art*, fig. 1/no. 131 & 132, pg. 8/ln. 1-pg. 11/ln. 12).

3. Claims 5 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* (6,400,416) and further in view of *McGeehan* (5,950,119).

As per claims 5 and 34-37, as stated above in claim 1, the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* further disclosed each of the first and second mixers comprise a first phase shifter (see Manuel, fig. 3/no. 30, fig. 4/no. 54), a second phase shifter (see Manuel, fig. 3/no. 38, fig. 4/no. 58), a first mixer (see Manuel, fig. 3/no. 32, fig. 4/no. 56), a second mixer (see Manuel, fig. 3/no. 34, fig. 4/no. 57). The modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* disclosed such coupling but not explicitly a combiner. However, such combiner is well known in the art, see *McGeehan* (fig. 5/no. 142). Therefore, it would have been obvious to one of ordinary skill in the art to provide such combiner, as disclosed in *McGeehan*, to the modified communication system of the *Applicant's Admitted Prior Art* and *Tomasz* to provide an accurate gain and phase matching of the paths through the first and second mixers that can be used to achieve a high degree of cancellation of the unwanted image signal.

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Clark et al. (5,937,006), Loke et al. (6,675,024), Atherly et al. (5,140,198), and Hughes (WO0019623) disclose radiotelephone communication system.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Tran whose telephone number is (571)272-7898. The examiner normal hours are 9:30 -5:00 (Monday-Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571)272-7899.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

**PABLO N. TRAN
PRIMARY EXAMINER**

May 15, 2005



Handwritten signature of Pablo N. Tran, with the text "AU2685" written below it.